

Plaintiff, E.I. du Pont de Nemours & Company ("DuPont"), commenced this action on April 28, 2006 in the United States District Court for the District of Colorado alleging, inter alia, that the defendants, MacDermid, Inc. and MacDermid Printing Solutions, L.L.C. ("MacDermid"), have (1) manufactured and sold flexographic printing elements that directly infringe one or more claims of DuPont's United States Patent No. 6,171,758 B1 ("`758 patent"), (2) encouraged others to directly infringe one or more claims of DuPont's `758 patent, (3) manufactured and sold flexographic printing elements to be used, treated, processed, or developed in a manner that directly infringes one or more claims of DuPont's United States Patent No. 6,773,859 B2 ("`859 patent"), and (4) encouraged others to directly infringe one or more claims of DuPont's `859 patent. See D. Colo. Civ. Action No. 06-816, dkt. entry no. 1, Compl. at ¶¶ 6-9, 14-17. On July 17, 2006, the United States District Court for the District of

Colorado granted the parties' joint motion to transfer the action here. Id., dkt. entry no. 30, 7-17-06 Order. Further, on August 7, 2006, DuPont voluntarily dismissed without prejudice all claims against MacDermid, Inc. pursuant to Federal Rule of Civil Procedure ("Rule") 41(a)(1). (Dkt. entry no. 5, Not. of Voluntary Dismissal.)

DuPont amended the complaint on February 6, 2007 to add a libel claim against MacDermid, which alleged that MacDermid wrote letters to DuPont's customers falsely claiming that DuPont made "threatening communications" to customers who were considering switching to MacDermid's infringing technology. (Dkt. entry no. 71, Am. Compl. at ¶¶ 21-22.) MacDermid answered the amended complaint and asserted counterclaims seeking, inter alia, (1) a judgment declaring that it does not infringe the '758 patent or the '859 patent (counts I and II), (2) a judgment declaring that the '758 patent and '859 patent are invalid (counts III and IV), (3) a judgment declaring that the '859 patent is unenforceable because either DuPont or its inventors engaged in fraud or inequitable conduct during its prosecution (count V), (4) judgment in its favor because "DuPont has used and continues to use the '859 patent and the '758 patent to violate 15 U.S.C. § 2 of the Sherman Anti-Trust Act by illegally attempting to monopolize the market for photopolymers for digitally laser imaged flexographic printing plates in the United States" (count

VI), and (5) judgment in its favor because DuPont has violated 15 U.S.C. § 2 of the Sherman Anti-Trust Act by engaging in "an intentional pattern and practice of claiming, as part of its [patented] invention, photopolymer plates while at the same time failing to disclose the composition of those photopolymer plates," and thus, preventing others from practicing the patented invention after the patent term expires (count VII). (Dkt. entry no. 73, 2d Am. Answer, Affirmative Defenses & Countercls. at 14-31.)

DuPont moved to preliminarily enjoin MacDermid from directly infringing its '859 patent. (Dkt. entry no. 31, Mot. for Prelim. Inj.) The Court denied DuPont's motion for a preliminary injunction, finding that a substantial question existed as to the '859 patent's validity. (Dkt. entry no. 114, 8-13-07 Mem. Op. at 55.) The Court concluded that uncertainty as to the '859 patent's critical date raised "substantial questions regarding whether the invention of the '859 patent was in public use or on sale one year prior to the date of the applicable patent application." (Id. at 56.) The Court declined to address MacDermid's other invalidity and unenforceability arguments as well as the remaining preliminary injunction factors. (Id. at 56-57.) DuPont appealed from the Court's opinion and order to the Court of Appeals for the Federal Circuit ("Federal Circuit"). (Dkt. entry no. 119, Not. of Appeal.) The Federal Circuit found

no uncertainty as to the '859 patent's critical date and determined that the "'859 patent [was] entitled to claim priority to the provisional application as a matter of law." E.I. du Pont de Nemours & Co. v. MacDermid Printing Solutions, LLC, 525 F.3d 1353, 1358, 1362 (Fed. Cir. 2008). The Federal Circuit vacated and remanded the action for this Court's consideration of the parties' remaining arguments as to validity and enforceability of the '859 patent and the remaining preliminary injunction factors. Id. at 1354.

The Court has considered the papers submitted by the parties and heard oral argument on October 3, 2008. The Court hereby issues its findings of fact and conclusions of law with respect to the motion as required by Rule 52. For the reasons stated herein, the Court will deny the motion.

BACKGROUND AND FACTUAL FINDINGS

I. Overview of Flexographic Printing Plates

Flexographic printing plates are used to print images on packaging materials such as flexible films, paper, labels, and cups, as well as newspapers and magazines. (Dkt. entry no. 31, DuPont Br. at 4.) A flexographic printing plate consists of a transparent base layer, a photopolymerizable layer, and a cover sheet. (Id. at 5.) The base layer provides support for the other layers. (Id.) The photopolymerizable layer contains elastomeric binders, monomers, photoinitiators and other

additives, and thus, once it is developed, it has a raised surface that depicts the image to be printed. (Id.) A digital flexographic printing plate has an additional infrared ablation layer, which is laminated directly onto the surface of the photopolymerizable layer. (Id.; see dkt. entry no. 44, MacDermid Br. at 3 (noting that the "modern" method of developing a printing plate involves adding a UV absorbing layer directly to the photopolymerizable layer rather than having to place a phototool on top of it).)

To develop an image on a digital flexographic printing plate, the printer must first peel off the cover sheet. (DuPont Br. at 5.) Next, a computer generated infrared laser is moved across the surface of the infrared ablation layer to remove portions of this layer depending upon the digitized image. (Id. at 5-6; MacDermid Br. at 3.) As a result, the desired image is transferred onto the infrared ablation layer and a photonegative or "in-situ mask" of the image to be printed is created. (DuPont Br. at 6; MacDermid Br. at 3.) The photopolymerizable layer is then exposed to UV light through the in-situ mask. (DuPont Br. at 7; MacDermid Br. at 3.) The portions of the infrared ablation layer that were not removed by the infrared laser block parts of the photopolymerizable layer from the UV light. (DuPont Br. at 7; MacDermid Br. at 3-4.) The parts of the photopolymerizable layer that are exposed to the UV light polymerize and become

insoluble to certain chemical solvents. (DuPont Br. at 7; MacDermid Br. at 4 ("Where the UV absorbing layer was removed by the laser, the UV light will cure and harden the photopolymerizable layer.")) Finally, the printing plate can be washed with chemical solvents and scrubbed with mechanical brushes so that the remaining portions of the infrared ablation layer and the unpolymerized parts of the photopolymerizable layer are removed. (DuPont Br. at 7.) This leaves a raised surface or "printing relief" that can be used to print the desired image. (Id.) Because the flexographic printing plates absorb the chemical solvents, they must undergo a rigorous, lengthy, and costly drying process. (Id. at 9.) This drying step is labor intensive and requires large and expensive drying and emissions control equipment. (Id.)

MacDermid contends that there are a number of alternative methods for removing the remaining portions of the infrared ablation layer and the uncured parts of the photopolymerizable layer, including (1) using water and brushes, (2) using an "air knife" or forced air, and (3) heating the plate to soften the uncured parts and then removing the softened uncured parts with an absorbent material or blotter (i.e., thermal development). (MacDermid Br. at 4.) DuPont asserts that its scientists and engineers invented the thermal development process. (See DuPont Br. at 7.) MacDermid asserts, however, that "even at this early

stage of the litigation, it is clear that DuPont invented nothing." (MacDermid Br. at 4.)

II. The '859 Patent

The '859 patent discloses "a process for preparing a flexographic printing plate from a photosensitive element having a photopolymerizable layer and a thermally removable layer on the photopolymerizable layer." (Dkt. entry no. 31, Taylor Decl., Ex. 1, '859 patent, at Abstract.) It is composed of 54 claims, but only claims 1 and 51 are independent. (See id. at cols. 43-48.)

Claim 1 states:

1. A process for making a flexographic printing plate comprising:
 - 1) providing a photosensitive element comprising: at least one photopolymerizable layer on a support comprising an elastomeric binder, at least one monomer, and a photoinitiator, and at least one thermally removable layer disposed above the photopolymerizable layer, the thermally removable layer selected from the group consisting of
 - (a) an actinic radiation opaque layer comprising (i) at least one infrared absorbing material, (ii) a radiation opaque material, wherein (i) and (ii) can be the same or different, and at least one binder having a softening or melting temperature less than 190°C.;
 - (b) a layer of a composition comprising at least one binder and filler, wherein the binder is less than 49% by weight based on the total weight of the binder and filler, and
 - (c) a layer of particulate material having particle size of less than 23 micrometers;
 - 2) imagewise exposing the photopolymerizable layer to actinic radiation forming polymerized portions and unpolymerized portions; and
 - 3) thermally treating the element of step 2) by heating to a temperature sufficient to remove the

thermally removable layer and to remove the unpolymerized portions of the photopolymerizable layer and form a relief.

(Id. at col. 43, lines 14-40.)

DuPont introduced its commercial embodiment of claim 1, Digital Cyrel® FAST ("Cyrel"), in 2001. (DuPont Br. at 10-11.) DuPont asserts that Cyrel pioneered and first commercialized the "growing and commercially successful market for the thermal development of digital flexographic printing plates." (Id. at 10.) In fact, DuPont states that it sold more than \$90 million worth of digital flexographic printing plates that can be thermally developed between 2001 and August of 2006. (Id. at 11.)¹ Also, DuPont notes that in 2003, Cyrel received the Flexographic Technical Association's "Technical Innovation Award." (Id. at 12.)

MacDermid launched its LAVA products in April of 2004. (MacDermid Br. at 10.) It installed a thermal processing system and began selling its LAVA flexographic printing plates in November of 2004. (Id.; DuPont Br. at 12 (noting that MacDermid markets and sells a thermal processing system known as LAVA, as well as flexographic printing plates).) MacDermid has invested over \$4 million in the research and development of its thermal development technology, and has spent over \$797,000 marketing its

¹ The equipment required to thermally process DuPont's digital flexographic printing plates is typically leased or loaned to customers for a multi-year period. (DuPont Br. at 11.)

LAVA products. (MacDermid Br. at 11.) DuPont tested and analyzed MacDermid's MLT and Magma printing plates in late 2005.

(Id. at 10; DuPont Br. at 15.) DuPont contends that

MacDermid markets its LAVA thermal processing system and equipment and MLT and Magma flexographic printing plates as providing the same benefits and having the same features as DuPont's Cyrel® FAST thermal technology, describes its infringing technology with a numbering system designed to draw a close parallel in the minds of customers with DuPont's FAST thermal process equipment, and has even sought a license from DuPont to use the patented technology it is now offering to customers.

(DuPont Br. at 13.) DuPont further contends that in addition to copying DuPont's patented thermal technology, MacDermid has also adopted the same naming conventions for its equipment. (Id. at 14 (noting that DuPont calls its thermal processing equipment "Cyrel® FAST TD 4260" and MacDermid calls its thermal processing equipment "LAVA 4260").)

III. The Prosecution History of the '859 Patent

The original application for the '859 patent was filed with the United States Patent and Trademark Office ("PTO") on February 27, 2002. (Dkt. entry no. 46, Mahanna Decl., Ex. 2, at A-2, 2-27-02 Utility Patent Application Transmittal.) The patent application listed "Roxy Ni Fan, et al." as the inventor and "a process for making a flexographic printing plate and a photosensitive element for use in the process" as the patent's title. (Id.) The applicants filed an Information Disclosure Statement with the application, which informed the PTO about the

existence of (1) United States Patent Nos. 3,060,024, 3,060,025, 3,264,103, 4,429,027, 5,175,072 ("Martens '072 patent"), 5,262,275 ("Fan '275 patent"),² 5,607,814, 5,719,009, 5,840,463, and 5,888,697, and (2) European Patent Nos. 0665469, 0665471, and 0741330. (Id. at B-1 to B-2, 2-27-02 Information Disclosure Stmt.) Also, the applicants filed a Supplemental Information Disclosure Statement on February 24, 2003 disclosing the existence of United States Patent Application No. 2002/0009672 ("Daems '672 patent application"). (Id. at E-1 to E-3, 2-24-03 Information Disclosure Stmt.)³

The PTO issued an Office Action in which the patent examiner (1) allowed claims 51-54, (2) rejected claims 1-7, 9-10, 14-16, 18, 28-30, 33-42, and 45-50, and (3) objected to claims 8, 11-13, 17, 19, 31-32, and 43-44. (Id. at F-2, 9-29-03 Office Action.) The patent examiner stated that he was rejecting claims 1-7, 9-10, 14-16, 18, 28-30, 33-42, and 45-50 because they were either anticipated under 35 U.S.C. § ("Section") 102(a) and (e), or obvious under Section 103(a) in light of the Daems '672 patent

² We refer to these patents using the name of the first patentee or applicant listed on the Information Disclosure Statement in conjunction with the patent's last three numbers.

³ The Daems '672 patent application is "[n]on-provisional of provisional application No. 60/214,016, filed on Jun. 26, 2000." (Mahanna Decl., Ex. 3, Daems '672 patent application.) The Daems '672 patent application was filed on January 24, 2002, approximately one month before the '859 patent application was filed. (Id.; MacDermid Br. at 7.)

application. (Id. at F-4, 9-29-03 Office Action.) The patent examiner explained that the Daems '672 patent application:

discloses processes using elements comprising photopolymerizable layers containing elastomeric binders overcoated with thermally removable layers comprising binders, infrared absorbing materials and opaque materials within the scope of the thermally removable layers of paragraph "a" of the instant claims. The thermally removable layer is thermally imaged to form a mask and then the element is photopolymerized and thermally treated to remove unpolymerized areas and the thermally removable opaque layers. If [the Daems '672 patent application] do[es] not anticipate the instant claims, then it would at least be obvious to one skilled in the art to select thermally removable layers, photopolymerizable layers, thicknesses and processing temperatures from the generic disclosure in [the Daems '672 patent application] in order to carry out the processes of [the Daems '672 patent application].

(Id.) The patent examiner also explained that claims 8, 11-13, 17, 19, 31-32, and 43-44 were only objectionable because they depended on rejected claims, and thus, they would be allowed if written in independent form. (Id.)

The applicants responded to the Office Action on March 29, 2004. (Id. at G-1 to G-2, 3-29-04 Resp.) In addition to the response, the applicants submitted a declaration by co-inventor Adrian Lungu, which showed that the claimed invention had been completed in the United States on or before June 9, 1999. (Id. at G-1 to G-14, 3-29-04 Resp. & Lungu Decl.) Thus, the applicants asserted that the Daems '672 patent application was "no longer available for use as a reference in rejecting the present claims" because the claimed invention predated the filing

of the Daems '672 patent application. (Id. at G-2, 3-29-04 Resp.) Accordingly, the applicants (1) alleged that the claimed invention was not anticipated or obvious to one skilled in the art, and (2) requested that the patent examiner reconsider the rejection of certain claims. (Id.)

The PTO then issued a Notice of Allowability, which allowed claims 1 through 51. (Id. at I-1.) The form used to transmit the issue fee and publication fee, which was received by the PTO on April 22, 2004, lists DuPont as the assignee of the '859 patent. (Id. at J-1, 4-22-04 Fee(s) Transmittal Form.) The PTO issued the '859 patent on August 10, 2004. (Mahanna Decl., Ex. 1, '859 patent.)

CONCLUSIONS OF LAW

DuPont argues, inter alia, that MacDermid should be preliminarily enjoined from infringing its '859 patent because (1) there is a strong likelihood that it will prevail on the merits, (2) it will be irreparably harmed by MacDermid's continued infringement, (3) the balance of the hardships favors granting the injunction, and (4) the public interest favors granting the injunction. (See DuPont Br. at 18-40.) In contrast, MacDermid argues that (1) DuPont failed to meet its burden of showing that it will likely succeed on the merits, (2) DuPont cannot establish that it will suffer immediate and irreparable harm absent an injunction, (3) the hardship that an

injunction would cause to MacDermid outweighs any alleged harm DuPont would face absent an injunction, and (4) the public interest weighs strongly against granting the injunction. (See MacDermid Br. at 12-55.) The findings and conclusions set forth in this opinion are preliminary only, and based upon the state of the record at this stage in the litigation. See Fed.R.Civ.P. 65(a). The parties have preserved all rights to present their disputes to a fact-finder for eventual adjudication on the merits.

I. Legal Standards Governing Preliminary Injunctions in Patent Infringement Actions

The Court, in its discretion, may grant a preliminary injunction "to prevent the violation of any right secured by patent." 35 U.S.C. § 283; see Genentech, Inc. v. Novo Nordisk A/S, 108 F.3d 1361, 1364 (Fed. Cir. 1997). Injunctive relief is a "drastic and extraordinary remedy," which should be granted only in limited circumstances. Nat'l Steel Car, Ltd. v. Canadian Pac. Ry., Ltd., 357 F.3d 1319, 1324 (Fed. Cir. 2004) (quotation and citation omitted). To obtain such interim relief, a movant must demonstrate (1) a reasonable likelihood of success on the merits, (2) irreparable harm if the injunction is not granted, (3) that the balance of hardships favors granting the preliminary relief, and (4) that granting the preliminary relief is in the public interest. PHG Techs., LLC v. St. John Cos., Inc., 469 F.3d 1361, 1365 (Fed. Cir. 2006); Pfizer, Inc. v. Teva Pharms.

USA, Inc., 429 F.3d 1364, 1372 (Fed. Cir. 2005); Genentech, Inc., 108 F.3d at 1364. “[A] movant cannot be granted a preliminary injunction unless it establishes both of the first two factors, i.e., likelihood of success on the merits and irreparable harm.” PHG Techs., LLC, 469 F.3d at 1365 (quotation and citation omitted).

A. Reasonable Likelihood of Success on the Merits

To demonstrate a likelihood of success on the merits, the patent holder seeking the preliminary injunction must show that (1) “in light of the presumptions and burdens that will inhere at trial on the merits” infringement will likely be shown, and (2) the infringement claim will withstand challenges to the validity and enforceability of the patent. Genentech, Inc., 108 F.3d at 1364; see Entegris, Inc. v. Pall Corp., 490 F.3d 1340, 1351 (Fed. Cir. 2007) (noting that a “patent holder seeking a preliminary injunction bears the burden of establishing a likelihood of success on the merits with respect to the patent’s validity”). Thus, the Court cannot issue the preliminary injunction if the opposing party raises a “substantial question” regarding the validity, enforceability, or infringement of the patent. Genentech, Inc., 108 F.3d at 1364; see Entegris, Inc., 490 F.3d at 1351 (noting that a preliminary injunction should not issue where a “substantial question” exists as to patent’s validity).

1. Infringement

The Court must first determine the scope and meaning of the patent claims. Markman v. Westview Instruments, Inc., 52 F.3d 967, 979 (Fed. Cir. 1995), aff'd, 517 U.S. 370 (1996). Construction of a patent's claims is a matter of law for the Court. Markman, 517 U.S. at 372 ("[T]he construction of a patent, including terms of art within its claim, is exclusively within the province of the Court."). Second, the allegedly infringing product is compared to each claim at issue to determine whether the product contains every limitation contained in each claim or the substantial equivalent of any limitation not literally present. Amazon.com, Inc. v. Barnesandnoble.com, Inc., 239 F.3d 1343, 1351 (Fed. Cir. 2001); Laitram Corp. v. Rexnord, Inc., 939 F.2d 1533, 1535 (Fed. Cir. 1991).

There is a "'heavy presumption' that a claim term carries its ordinary and customary meaning." CCS Fitness, Inc. v. Brunswick Corp., 288 F.3d 1359, 1366 (Fed. Cir. 2002). The "ordinary and customary meaning of a claim term is the meaning . . . a person of ordinary skill in the art in question" would give to such term on the effective filing date of the patent application. Phillips v. AWH Corp., 415 F.3d 1303, 1313 (Fed. Cir. 2005). Such a person is deemed to interpret the claim term in the context of the entire patent, including the specification. Id. A claim term should generally be given its ordinary meaning

unless the patentees “clearly set forth a definition of the disputed claim term in either the specification or prosecution history.” CCS Fitness, Inc., 288 F.3d at 1366. Thus, words in a claim are generally given their ordinary and customary meaning in the absence of a contrary indication in the patent specification or file history. Wolverine World Wide, Inc. v. Nike, Inc., 38 F.3d 1192, 1196 (Fed. Cir. 1994).

When interpreting an asserted patent claim, the Court should look first to the intrinsic evidence of record, which includes the patent’s claims, the patent’s specification, and the complete prosecution history. Markman, 52 F.3d at 979. Such intrinsic evidence is the most significant source of the legally operative meaning of disputed claim language. Vitronics Corp. v. Conceptronic, Inc., 90 F.3d 1576, 1583 (Fed. Cir. 1996). In reviewing this intrinsic evidence, the Court considers the context in which a term is used within both the claim at issue and the claims that are not at issue. Phillips, 415 F.3d at 1314. Further, the Court must interpret claim terms in light of the specification. Id. at 1315 (noting that the specification is highly relevant to claim construction and usually dispositive).

The Court should also consider the patent’s prosecution history. Id. at 1317; see also Graham v. John Deere Co. of Kan. City, 383 U.S. 1, 33 (1966) (“It is, of course, well settled that an invention is construed not only in the light of the claims,

but also with reference to the file wrapper or prosecution history in the Patent Office.”) The doctrine of “prosecution history estoppel” requires that a patent’s claims be interpreted in light of all PTO proceedings that occurred during the patent application process. Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., Ltd., 535 U.S. 722, 733 (2002) (noting that “prosecution history estoppel” ensures that claims are interpreted in light of those claims that were cancelled or rejected). Accordingly, the prosecution history is useful in claim construction because it demonstrates how the inventor limited the invention during the course of the patent prosecution, and thus, narrowed the scope of the ultimately patented product. Phillips, 415 F.3d at 1317. Nevertheless, because the prosecution history reflects the ongoing negotiations between the inventor and the PTO, it is often less clear and less useful than the specification. Id.

The ordinary meaning of claim language as understood by a person of skill in the art will be readily apparent to a lay judge in some instances after reviewing the intrinsic evidence, and claim construction will involve simple application of the widely accepted meanings of commonly understood words. Id. at 1314. In such circumstances, general purpose dictionaries may be helpful. Id. However, “heavy reliance on the dictionary divorced from the intrinsic evidence risks transforming the

meaning of the claim term to the artisan into the meaning of the term in the abstract, out of its particular context, which is the specification.” Id. at 1321.

2. Validity

A patent is presumed to be valid, and each of its claims are presumed valid independent of the validity of other claims. 35 U.S.C. § 282. A party asserting the invalidity of a patent or one or more of its claims must establish such invalidity by clear and convincing evidence. Id.; Bausch & Lomb, Inc. v. Barnes-Hind/Hydrocurve, Inc., 796 F.2d 443, 446 (Fed. Cir. 1986). Clear and convincing evidence is evidence that proves in the mind of the trier of fact an abiding conviction that the truth of the factual contentions is highly probable. Intel Corp. v. U.S. Int’l Trade Comm’n, 946 F.2d 821, 830 (Fed. Cir. 1991). However, a party opposing a preliminary injunction need only raise a “substantial question” of invalidity. Entegris, Inc., 490 F.3d at 1351. The “showing of a substantial question as to invalidity . . . requires less proof than the clear and convincing showing necessary to establish invalidity itself.” Id. (omission in original) (quotation and citation omitted); Abbott Labs. v. Andrx Pharms., Inc., 452 F.3d 1331, 1335 (Fed. Cir. 2006) (“Vulnerability is the issue at the preliminary injunction stage, while validity is the issue at trial.”). Thus, if the alleged infringer asserts an invalidity defense that the patent holder

cannot prove "lacks substantial merit," the Court should not issue the preliminary injunction. Entegris, Inc., 490 F.3d at 1351; see Genentech, Inc., 108 F.3d at 1364 (noting that the presumption that a patent is valid does not relieve a patentee moving for a preliminary injunction from demonstrating likely success on all disputed issues, even those concerning the patent's validity).

B. Irreparable Injury

The Court should presume that a patent holder will be irreparably harmed if such holder "establishes a strong showing of likely infringement of a valid and enforceable patent." Pfizer, Inc., 429 F.3d at 1381; see Cordis Corp. v. Boston Scientific Corp., 99 Fed.Appx. 928, 933 (Fed. Cir. 2004) ("Once a patentee shows a likelihood of success on the merits, this court's law presumes an irreparable harm.") There are, however, exceptions to the general rule that infringement of a valid patent inherently causes irreparable harm, including a finding that (1) future infringement is unlikely, (2) the patent holder has licensed the patent, or (3) the patent holder delayed in bringing the infringement action. Pfizer, Inc., 429 F.3d at 1381; see Cordis Corp., 99 Fed.Appx. at 933-35 (acknowledging that delay in bringing an action, seeking monetary damages, granting licenses, and relative market effects are factors that may be considered by a court when determining whether the

defendant has rebutted the presumption of irreparable harm). If a presumption of irreparable harm attaches, the alleged infringer has the burden of producing sufficient evidence establishing that the patent holder would not be irreparably harmed by denial of the preliminary injunction. Pfizer, Inc., 429 F.3d at 1381. The presence of other infringers in the marketplace does not negate irreparable harm. Id.

C. Harm to Nonmoving Party

The Court must balance the hardships to ensure that the injunction would not harm the alleged infringer more than denial of the injunction would harm the patent holder. See id. at 1382. However, "an alleged infringer's loss of market share and customer relationships, without more, does not rise to the level necessary to overcome the loss of exclusivity experienced by a patent owner due to infringing conduct." Id.

D. The Public Interest

The public interest will almost always favor the plaintiff, if both a likelihood of success on the merits and irreparable injury are demonstrated. See Anton/Bauer, Inc. v. PAG, Ltd., 329 F.3d 1343, 1353 (Fed. Cir. 2003) (noting that the court need not address the public interest factor because the first two preliminary injunction factors were not present). Nevertheless, although the public has an interest in upholding the exclusive rights of a patent holder, this interest "cannot control in every

case without obliterating the public interest component of the preliminary injunction inquiry.” Cordis Corp., 99 Fed.Appx. at 935. Accordingly, the Court must still consider whether any strong public interests weigh against issuing a preliminary injunction in a patent infringement case. See id. at 935-36 (finding that the district court did not err in considering the public’s strong interest in having a broad choice of drug-eluting stents in reaching its determination that a patent holder was not entitled to a preliminary injunction).

II. Legal Standards Applied Here

A. Reasonable Likelihood of Success on the Merits

1. Construction of Claim 1⁴

Claim 1 describes a process for making a flexographic printing plate comprised of a number of elements. (Taylor Decl., Ex. 1, ‘859 patent, at col. 43 lines 14-40.) We will now discuss each claim construction issue raised by the parties in their Markman briefs that pertains to claim 1 of the ‘859 patent, and

⁴ DuPont contends that MacDermid is infringing claims 1, 6, 21, 22, 30, 33, 36, 39, 40, 41, and 48 of the ‘859 patent. (Dkt. entry no. 77, Mahanna Decl., Ex. 3., DuPont’s Interrogatory Responses, at 11-15.) However, claims 6, 21, 22, 30, 33, 36, 39, 40, 41, and 48 each depend on claim 1, and thus, the Court finds that its construction of these claims is consistent with its construction of claim 1 discussed infra. Further, both in their briefs in support of and in opposition to the preliminary injunction motion and at the hearing held on October 3, 2008, the parties limited their discussion to claim 1. Therefore, for purposes of deciding this preliminary injunction motion, the Court will tentatively construe only claim 1 of the ‘859 patent.

tentatively construe the disputed terms. See Aventis Pharms., Inc. v. Barr Labs., Inc., 411 F.Supp.2d 490, 495 (D.N.J. 2006) (acknowledging that at the preliminary injunction stage the district court has discretion to base its resolution on a tentative claim construction), aff'd, 208 Fed.Appx. 842 (Fed. Cir. 2006), and aff'd, 208 Fed.Appx. 843 (Fed. Cir. 2006).⁵

a. "photosensitive element"

Limitation 1 of claim 1 states that the process for making a flexographic printing plate must "provid[e] a photosensitive element." (Taylor Decl., Ex. 1, '859 patent, at col. 43, line 16.) DuPont asserts that the "photosensitive element" is a multi-layer article comprised of (1) a support, (2) at least one

⁵ In its opening Markman brief, DuPont proposed constructions of four phrases or terms found in claim 1 of the '859 patent. (Dkt. entry no. 78, DuPont Markman Br. at 11-17.) MacDermid responded to each of DuPont's proposed constructions. (Dkt. entry no. 96, MacDermid Br. in Opp'n to DuPont Markman Br. at 4-10.) Further, MacDermid, in its opening Markman brief, proposed construction of approximately twenty-one phrases or terms found in claim 1 of the '859 patent. (Dkt. entry no. 77, MacDermid Markman Br. at 26-29, 35-43.) DuPont, however, only responded to twelve of MacDermid's proposed constructions. (Dkt. entry no. 95, DuPont Responsive Cl. Construction Br. at 22-37.) DuPont stated that it was "forced" to respond to certain of MacDermid's proposed definitions due to "MacDermid's strained claim construction analysis," but added that it would not burden the Court "by proposing constructions for the remaining . . . phrases addressed in MacDermid's opening brief." (Id. at 22 n.6.) Thus, the Court will assume for purposes of deciding this preliminary injunction motion that DuPont accepts MacDermid's proposed construction of those terms or phrases that DuPont did not address in its brief in response to MacDermid's opening Markman brief.

photopolymerizable layer, and (3) at least one thermally removable layer located above the photopolymerizable layer. (DuPont Markman Br. at 11.) MacDermid, however, argues that DuPont's interpretation of "photosensitive element" improperly renders other claim language redundant. (MacDermid Br. in Opp'n to DuPont Markman Br. at 4.) Instead, MacDermid asserts that "photosensitive element" should be construed in accordance with its ordinary and customary meaning as "[a] printing plate sensitive and responsive to light or other radiant energy such that it polymerizes." (Id. at 4-5.)

Limitation 1 of claim 1 expressly states that the "photosensitive element" is comprised of "at least one photopolymerizable layer on a support . . . , and at least one thermally removable layer disposed above the photopolymerizable layer." (Taylor Decl., Ex. 1, '859 patent, at col. 43, lines 16-20.) See Phillips, 415 F.3d at 1314 (noting that in construing a claim term the Court must consider the context in which the term is used within the claim at issue). Further, this term is defined in a substantially similar way in the patent's specification. (Taylor Decl., Ex. 1, '859 patent, at col. 4, line 65 to col. 5, line 2; col 5, lines 58-61.) See Phillips, 415 F.3d at 1315 (stating that the Court must interpret claim terms in light of the specification). Accordingly, in light of the intrinsic evidence, the Court finds that the term

"photosensitive element" as used in limitation 1 of claim 1 encompasses a component of the flexographic printing plate having a support and at least one thermally removable layer disposed above at least one photopolymerizable layer.

b. "photopolymerizable layer"

Limitation 1 of claim 1 states that the photosensitive element is comprised of, inter alia, a photopolymerizable layer. (Taylor Decl., Ex. 1, '859 patent, at col. 43, lines 16-17.) MacDermid asserts that "photopolymerizable layer" means a "radiation-curable composition." (MacDermid Markman Br. at 35.) MacDermid also asserts that the specification "mandates [its] proposed construction of 'photopolymerizable layer.'" (Id.) DuPont, however, contends that claim 1 clearly defines "photopolymerizable layer" as "a layer comprising an elastomeric binder, at least one monomer, and a photoinitiator." (DuPont Responsive Cl. Construction Br. at 30.)

The Court agrees with DuPont that the plain language of limitation 1 of claim 1 expressly states that the "photopolymerizable layer" is comprised of (1) an elastomeric binder, (2) at least one monomer, and (3) a photoinitiator. (Taylor Decl., Ex. 1, '859 patent, at col. 43, lines 17-19.) Moreover, the specification describes the "photopolymerizable layer" as "comprising an elastomeric binder, at least one monomer, and a photoinitiator." (Id. at col. 4, line 66 to col.

5, line 1; col. 5, lines 21-23.) The specification further describes the "photopolymerizable layer" as "formed of a composition comprising a thermoplastic binder, at least one monomer and a photoinitiator. The thermoplastic binder is preferably is [sic] elastomeric. The photoinitiator has sensitivity to actinic radiation." (Id. at col. 5, line 64 to col. 6, line 1.) Thus, the intrinsic evidence specifically sets forth the meaning of "photopolymerizable layer." See Vitronics Corp., 90 F.3d at 1583 (noting that intrinsic evidence is the most significant source of the legally operative meaning of disputed claim language.)

Although both limitation 2 of claim 1 and the specification state that in making the flexographic printing plate the photopolymerized layer will be exposed to actinic radiation so that portions become polymerized or cured, such information is not relevant in construing the meaning of "photopolymerizable layer." (See Taylor Decl., Ex. 1, '859 patent, at col 5., lines 12-14; col. 20, lines 29-32, 47-50; col. 43, lines 34-36.) Instead, it is relevant to determining whether MacDermid's LAVA products infringe the '859 patent. The Court will not construe "photopolymerizable layer," as seen in claim 1, in terms of how that layer is used in the claimed process. Thus, the Court finds that a "photopolymerizable layer" is a layer comprised of an elastomeric binder, one or more monomers, and a photoinitiator.

c. "support"

Limitation 1 of claim 1 states that the photopolymerizable layer is "on a support." (Id. at col. 43, line 17.) In offering their proposed constructions of the term "support," both parties reference the following statement in the specification: "The support can be any flexible material that is conventionally used with photosensitive elements used to prepare flexographic printing plates." (Id. at col. 8, lines 25-27.) Based on this statement in the specification, MacDermid argues that "support" should be construed as meaning "[a] flexible material used to support the photopolymerizable layer of flexographic printing plates." (MacDermid Markman Br. at 36.) In contrast, DuPort argues that the Court should adopt the exact definition of "support" set forth in the specification. (DuPont Responsive Cl. Construction Br. at 31.) The Court agrees with DuPont that it should adopt the definition of "support" set forth in the specification. See Semitool, Inc. v. Novellus, Sys., Inc., 44 Fed.Appx. 949, 954 (Fed. Cir. 2002) ("When the meaning of a term used in a claim is sufficiently clear from its definition in the patent specification, that meaning shall apply."); CCS Fitness, Inc., 288 F.3d at 1366 (stating that a claim term should generally be given its ordinary meaning unless the patentees "clearly set forth a definition of the disputed claim term in either the specification or prosecution history"). Accordingly,

the Court finds that the "support" referenced in limitation 1 of claim 1 may be any flexible material that is conventionally used with photosensitive elements to prepare flexographic printing plates.

d. "elastomeric binder"

Limitation 1 of claim 1 states that the photopolymerizable layer is comprised of, inter alia, "an elastomeric binder." (Taylor Decl., Ex. 1, '859 patent, at col. 43, line 18.) MacDermid asserts that such term should be interpreted as encompassing an "elastic polymer or mixture of elastic polymers in the photopolymerizable layer." (MacDermid Markman Br. at 36.) In contrast, DuPont asserts that the specification defines "elastomeric binder" as "[a] single polymer or mixture of polymers." (DuPont Responsive Cl. Construction Br. at 31.)

The Court acknowledges that the '859 patent's specification, in describing the preferred embodiments, notes that the "thermoplastic binder can be a single polymer or mixture of polymers." (Taylor Decl., Ex. 1, '859 patent, at col. 6, lines 9-10.) Nevertheless, although the specification sets forth what constitutes a "binder" it does not specifically define the terms "elastomeric" or "elastomeric binder."

Webster's Ninth New Collegiate Dictionary defines "elastomer" as "any of various elastic substances resembling rubber." Webster's Ninth New Collegiate Dictionary 400 (1991)

(listing "elastomeric" as the adjective form of the noun "elastomer"); see Phillips, 415 F.3d at 1314 (noting that general purpose dictionaries may assist courts in determining widely accepted meanings of commonly used words). The preferred embodiment section of the specification describes various types of natural and synthetic polymers or combinations of polymers that may comprise the binder in the photopolymerizable layer (e.g., "[p]referably, the thermoplastic binder is an elastomeric block copolymer of an A-B-A type block copolymer, where A represents a non-elastomeric block, preferably a vinyl polymer and most preferably polystyrene, and B represents an elastomeric block, preferably polybutadiene or polyisoprene"). (Taylor Decl., Ex. 1, '859 patent, at col. 6, lines 9-44.) The Court, however, will not construe the term "elastomeric binder" as simply a polymer or mixture of polymers because such construction would render the modifier "elastomeric" meaningless. The Court also will not read the preferred embodiment as imposing limitations on the '859 patent's claims, particularly when the specification does not provide an express definition of "elastomeric binder" but instead lists a number of suitable polymers and combinations of polymers that may comprise the binder. See Phillips, 415 F.3d at 1323 (warning against confining claims to the preferred embodiment and rejecting contention that if a patent describes only one preferred

embodiment, the claims of the patent must be limited in accordance with that embodiment). Thus, the Court finds that the term "elastomeric binder" in limitation 1 of claim 1 encompasses a single elastic polymer or a mixture of elastic polymers.

e. "monomer"

Limitation 1 of claim 1 states that the photopolymerizable layer is comprised of, inter alia, "at least one monomer." (Taylor Decl., Ex. 1, '859 patent, at col. 43, line 18.) MacDermid asserts that such term should be interpreted as encompassing "[a] compound or mixture of compounds that forms a polymer by direct combination or addition with itself or other similar molecules or compounds." (MacDermid Markman Br. at 37.) DuPont, however, asserts that the term "monomer" simply refers to "[a] compound capable of addition polymerization." (DuPont Responsive Cl. Construction Br. at 32.)

The '859 patent's specification, in describing its preferred embodiments, states:

The photopolymerizable composition contains at least one compound capable of addition polymerization that is compatible with the binder to the extent that a clear, non-cloudy photosensitive layer is produced. The at least one compound capable of addition polymerization may also be referred to as a monomer and can be a single monomer or mixture of monomers.

(Taylor Decl., Ex. 1, '859 patent, at col. 6, lines 45-51.) Accordingly, the specification expressly states that a monomer is "at least one compound capable of addition polymerization."

(Id.) Moreover, Webster's Ninth New Collegiate Dictionary defines "monomer" as "a chemical compound that can undergo polymerization." Webster's Ninth New Collegiate Dictionary 954 (1991); see Phillips, 415 F.3d at 1314.

The preferred embodiment section of the specification provides examples of suitable monomers that can be used in the photopolymerizable layer after noting that such monomers "are well known in the art." (Taylor Decl., Ex. 1, '859 patent, at col. 6, line 51 to col. 7, line 20.) However, as previously stated, this Court will not read the preferred embodiment as imposing limitations on the '859 patent's terms, particularly when the term at issue has a commonly used meaning in the art and is generally defined in the specification. See Phillips, 415 F.3d at 1323 (warning against confining claims to the preferred embodiment and rejecting contention that if a patent describes only one preferred embodiment, the claims of the patent must be limited in accordance with that embodiment). Thus, in light of the intrinsic evidence set forth in the specification and the extrinsic evidence found in the dictionary definition, the Court finds that the term "monomer" in limitation 1 of claim 1 means a chemical compound capable of addition polymerization. Also, the Court finds that the "at least one" language that precedes the term "monomer" in limitation 1 of claim 1 suggests that the

photopolymerizable layer may be comprised of one or more chemical compounds capable of addition polymerization.

f. "thermally removable layer"

Limitation 1 of claim 1 states that the photosensitive element comprises, inter alia, "at least one thermally removable layer disposed above the photopolymerizable layer." (Taylor Decl., Ex. 1, '859 patent, at col. 43, lines 16-20.) Claim 1 lists three types of "thermally removable layer":

- (a) an actinic radiation opaque layer comprising (i) at least one infrared absorbing material, (ii) a radiation opaque material, wherein (i) and (ii) can be the same or different, and at least one binder having a softening or melting temperature less than 190°C.;
- (b) a layer of a composition comprising at least one binder and filler, wherein the binder is less than 49% by weight based on the total weight of the binder and filler, and
- (c) a layer of particulate material having particle size of less than 23 micrometers.

(Id. at col. 43, lines 23-33.) DuPont contends that "thermally removable layer" means a layer "that can [be] heated to a temperature that will allow the layer to be removed during the thermal development process." (DuPont Markman Br. at 14.)

MacDermid argues that "thermally removable layer" means "[a] layer capable of being removed by the application of heat."

(MacDermid Markman Br. at 26.) Although MacDermid argues that DuPont's rationale for its proposed construction of "thermally removable layer" should be rejected, it states that DuPont's construction "is not inconsistent with that proposed by MacDermid

. . . [and thus] either construction may be adopted.” (MacDermid Br. in Opp’n to DuPont Markman Br. at 5.) Therefore, the Court adopts DuPont’s interpretation and construes “thermally removable layer” to mean “a layer that can [be] heated to a temperature that will allow the layer to be removed during the thermal development process.” (See DuPont Markman Br. at 14.)

DuPont and MacDermid dispute whether the categories of thermally removable layers listed in limitation 1 of claim 1 pertain to digital imaging only or to both digital and analog imaging. (See 8-13-07 Mem. Op. at 31 n.6.) That is, the parties disagree over whether claim 1 covers only digital imaging or whether claim 1 is broad enough to cover both digital imaging and analog imaging. (See DuPont Responsive Cl. Construction Br. at 22-27; MacDermid Markman Br. at 26-29.) DuPont asserts that the “thermally removable layer” element of claim 1 is written in Markush format, and member (a) of the Markush group must be interpreted to include only digital imaging. (DuPont Responsive Cl. Construction Br. at 22-23.) Further, DuPont contends that Markush group members (a), (b), and (c) apply to digital imaging. (Id. at 24.) MacDermid argues that the limitations in independent claim 1 must be broad enough to encompass the limitations in dependent claims 2 and 43, which apply to analog imaging. (MacDermid Markman Br. at 27.) Also, MacDermid asserts

that the specification confirms that the "thermally removable layer" includes both digital and analog imaging. (Id. at 28.)

The Court concludes that claim 1 pertains to both digital and analog imaging, specifically that Markush group member (a) relates to digital imaging only, while Markush group members (b) and (c) relate to both digital and analog imaging. Member (a) describes "an actinic radiation opaque layer comprising (i) at least one infrared absorbing material, (ii) a radiation opaque material, . . . and at least one binder." (Taylor Decl., Ex. 1, '859 patent, at col. 43, lines 23-25.) This composition is consistent with a digital flexographic printing plate. (See Taylor Decl. at 3-4 (describing a digital flexographic printing plate as having an "infrared ablation layer" composed of "an infrared absorbing material, a radiation opaque material and a monomeric binder"); see also dkt. entry no. 185, 10-3-08 Hr'g Tr. at 97 (noting that an opaque thermally removable layer relates to digital imaging).) Further, the specification states that when the thermally removable layer is an actinic radiation opaque layer,

[t]he in situ mask of the radiation opaque layer may be formed by any method including imagewise ablation of the radiation opaque layer by infrared laser radiation from the photosensitive element, imagewise transfer of the radiation opaque layer by infrared laser radiation from a donor element to the photosensitive element, imagewise adhesion balance change by infrared laser radiation between a substrate and the photosensitive element and inkjet application methods.

(Taylor Decl., Ex. 1, '859 patent, at col. 10, lines 50-58.) Use of infrared laser radiation to create the in-situ mask in the actinic radiation opaque layer shows that member (a) relates to digital imaging. Digital imaging involves the use of "an infrared laser across the surface of the infrared ablation layer to selectively remove or 'ablate' portions of that layer."

(Taylor Decl. at 5; see MacDermid Br. at 3 (discussing digital imaging and describing use of a laser to ablate portions of the UV absorbing layer).)

Markush group members (b) and (c) relate to both digital imaging and analog imaging. The language of members (b) and (c) is not limited to digital or analog imaging. (See Taylor Decl., Ex. 1, '859 patent, at col. 43, lines 28-33.) Dependent claims 2 and 43, however, show that members (b) and (c) include both types of imaging. See Phillips, 415 F.3d at 1314 (noting that unasserted claims in the patent can provide guidance to the meaning of a claim term at issue). Here, dependent claim 2 applies to both digital and analog imaging, and dependent claim 43 applies to analog imaging.

Dependent claim 2 covers "[t]he process of claim 1 wherein the thermally removable layer selected from b) and c) is a release layer." (Taylor Decl., Ex. 1, '859 patent, at col. 43, lines 41-42.) A release layer can be used with analog imaging. (See id. at col. 10, lines 1-4 (stating that the "primary

purposes of a release layer are for ease in placing and removing an image-bearing transparency onto and from the photopolymerizable surface after exposure in a vacuum frame"); 10-3-08 Hr'g Tr. at 97 (noting that use of transparent layers relates to analog imaging).) A release layer can also be used with digital imaging. (See Taylor Decl., Ex. 1, '859 patent, col. 40, lines 1-17 (describing digital imaging of a flexographic printing plate where the plate structure includes a release layer); 10-3-08 Hr'g Tr. at 52-53 (stating that a release layer can be used with digital plates).) Thus, dependent claim 2 includes both digital and analog imaging.

Dependent claim 43 covers "[t]he process of claim 2 wherein imagewise exposing further comprises: placing a phototool imaged film on the thermally removable layer, exposing through the phototool with actinic radiation to selectively image the photopolymerizable layer, and removing the phototool prior to the step 3)." (Taylor Decl., Ex. 1, '859 patent, col. 46, line 64 to col. 47, line 3.) Claim 43's reference to use of a phototool shows that claim 43 applies to analog imaging. (Dkt. entry no. 57, 2d Taylor Decl. at 2 ("Analog flexographic printing plates require the creation of a separate phototool."); MacDermid Br. at 3 (stating that analog imaging involves use of a phototool).) Thus, claim 43 includes analog imaging.

Claims 2 and 43 are both dependent on claim 1 and reference members (b) and (c). Claim 1, therefore, must be broad enough to cover claims 2 and 43. See AK Steel Corp. v. Sollac & Ugine, 344 F.3d 1234, 1242 (Fed. Cir. 2003) (stating that independent claims “must be at least as broad as the claims that depend from them”); see also Baldwin Graphic Sys., Inc. v. Siebert, Inc., 512 F.3d 1338, 1345 (Fed. Cir. 2008) (noting that independent claims are broader than their dependent claims). Since dependent claims 2 and 43 apply to analog imaging, members (b) and (c) must also apply to analog imaging. See AK Steel Corp., 344 F.3d at 1242.⁶ Similarly, because claim 2 applies to digital imaging, members (b) and (c) must include digital imaging as well. See id.

The '859 patent specification also supports the Court's conclusion that members (b) and (c) apply to both digital and analog imaging. See Phillips, 415 F.3d at 1315 (highlighting the importance of the specification in claim construction analysis). The specification contains the following statements, which refer to the thermally removable layer, including members (b) and (c):

[T]he thermally removable layer may be opaque or transparent to actinic radiation. The at least one thermally removable layer may have one or more functions for the photosensitive element including, but

⁶ Alternatively, claims 2 and 43 could be invalid as overly broad. Neither party, however, contends that claims 2 and 43 are invalid as overly broad. (See e.g., dkt. entry no. 172, DuPont Supplemental Br. at 20 n.11.) Thus, the Court will presume that claims 2 and 43 are valid and are not overly broad.

not limited to, a release layer (Taylor Decl., Ex. 1, '859 patent, col. 9, lines 56-60.)

When the thermally removable layer is functioning as a release layer, the layer is transparent or substantially transparent, i.e., insensitive or substantially insensitive, to actinic radiation. (Id. at col. 10, lines 12-15.)

If the filler has color, it is preferred that the thermally removable layer (b) should be opaque to actinic radiation. (Id. at col. 13, lines 42-44.)

Further particle size is also particularly critical when the layer (c) functions as an actinic radiation opaque layer. (Id. at col. 16, lines 16-17.)

The image necessary for the imagewise exposure of the photopolymerizable layer can be generated by any method including conventional and digital methods, including inkjet application. . . . Any of the thermally removable layers (a), (b), and (c), which is capable of blocking actinic radiation can be used to form the in situ mask image. (Id. at col. 17, lines 17-25.)

Alternatively, a conventional method for imagewise exposure is by using an image-bearing transparency film or phototool, typically a silver halide film, as the mask. . . . The image-bearing transparency film is placed on the thermally removable layer the [sic] functions as a release layer, a vacuum is pulled to assure good contact of the mask film to the element, and the element is exposed. The image-bearing transparency film is removed from the element prior to thermal treating. (Id. at col. 18, lines 56-65.)

Thus, there are multiple references in the specification establishing that the thermally removable layer can be used in either digital imaging or analog imaging. In the references relating to analog imaging, the thermally removable layer generally functions as a release layer. (See, e.g., id. at col. 18, line 60-62.) Since members (b) and (c) can be release

layers, the specification references to release layers in analog imaging include members (b) and (c). (See id. at col. 43, lines 41-42.) Thus, Markush group members (b) and (c) apply to both digital and analog imaging.

g. "infrared absorbing"

Limitation 1 of claim 1 states that the thermally removable layer is selected from a group consisting of three choices, including an actinic radiation opaque layer comprising, inter alia, "at least one infrared absorbing material." (Id. at col. 43, lines 21-24.) MacDermid contends that "infrared absorbing" means "[c]apable of absorbing and sensitive to electromagnetic radiation with wavelengths from 750 nm to 1 mm. Sensitive to includes the capability of being removed through the application of infrared radiation." (MacDermid Markman Br. at 38.) In contrast, DuPont contends that the Court does not need to construe "infrared absorbing" because "the meaning of the phrase is clear and unambiguous on its face." (DuPont Responsive Cl. Construction Br. at 33.) In the alternative, DuPont asserts that if the Court believes the term does need further clarification, the Court should construe it as meaning "capable of absorbing and sensitive to electromagnetic radiation with wavelengths from 750 nm to 20,000 nm (i.e., the infrared laser range)." (Id.)

The Court agrees with DuPont that "infrared absorbing" is an unambiguous term that means capable of absorbing infrared light.

"Infrared" is commonly used and has a widely accepted meaning. See Phillips, 415 F.3d at 1314 (explaining that the ordinary meaning of claim language will often be readily apparent to a lay judge, and thus, claim construction will involve simply applying the widely accepted meanings of commonly understood words). Specifically, "infrared" refers to light "lying outside the visible spectrum at its red end - used of thermal radiation of wavelengths longer than those of visible light." Webster's Ninth New Collegiate Dictionary 621 (1991); see Merriam-Webster Online Dictionary (2008) (defining infrared as "situated outside the visible spectrum at its red end - used of radiation having a wavelength between about 700 nanometers and 1 millimeter"). Thus, the Court finds that "infrared absorbing" means capable of absorbing light lying outside the visible spectrum at its red end with a wavelength between 700 nanometers and one millimeter. The Court acknowledges that the specification describes a process where the infrared laser exposure is "carried out using various types of infrared lasers, which emit in the range 750 to 20,000 nm," but again the Court will not use the specification to limit an unambiguous claim term. (Taylor Decl., Ex. 1, '859 patent, at col. 17, lines 39-41.) See Phillips, 415 F.3d at 1323.⁷

⁷ 20,000 nanometers equals .02 millimeters, but infrared light encompasses the range from about 700 nanometers to one millimeter or 1,000,000 nanometers. See Merriam-Webster Online Dictionary (2008).

h. "binder"

Limitation 1 of claim 1 states that the thermally removable layer is selected from a group consisting of three choices.

(Taylor Decl., Ex. 1, '859 patent, at col. 43, lines 20-33.) One choice is an actinic radiation layer comprising, inter alia, "at least one binder" ("choice a"). (Id. at col. 43, lines 23-27.)

A second choice is "a layer of a composition comprising at least one binder and filler, wherein the binder is less than 49% by weight based on the total weight of the binder and filler"

("choice b"). (Id. at col. 43, lines 28-31.) MacDermid argues that "binder" should be construed as "[a] single polymer or mixture of polymers in the thermally removable layer."

(MacDermid Markman Br. at 40.) DuPont, however, argues that "binder" should be construed as a "[p]olymer or mixture of polymers capable of forming a film or coating." (DuPont Responsive Cl. Construction Br. at 33.)

The parties seem to agree that a "binder" can be a single polymer or a mixture of polymers. (MacDermid Markman Br. at 40; DuPont Responsive Cl. Construction Br. at 33.) However, they disagree about whether such polymer(s) must be capable of forming a film or coating. The '859 patent's specification, in describing its preferred embodiments, states that a "thermoplastic binder can be a single polymer or mixture of polymers." (Taylor Decl., Ex. 1, '859 patent, at col. 6, lines

9-10.) Thus, as noted above in the discussion of "elastomeric binder," the specification expressly sets forth what constitutes a "binder."

The specification suggests binders suitable for use in the actinic radiation opaque layer of choice a. (Id. at col. 11, lines 43-65; col. 12, lines 3-14.) It also suggests binders suitable for use in choice b. (Id. at col. 13, lines 11-26.) However, these suggestions in no way limit the proper construction of "binder" as that term is used in choice a or choice b. Moreover, although the specification acknowledges that "[g]enerally, a binder alone is capable of forming a film," the Court finds that this language also does not in any way limit the definition of "binder." (Id. at col. 12, line 59.) When read in conjunction with other sections of the specification, this language is meant to clarify that a choice a or choice b thermally removable layer will have a "coating" thickness, and this "coating" may be formed solely by the binder contained in such layer. (See id. at col. 11, lines 37-40 ("Since the binder is present in greater proportion than the radiation opaque material and/or the infrared absorbing material, the thermally removable layer (a) forms a continuous film"); col. 12, line 59; col. 13, line 8 (describing "coating thickness of the thermally removable layer (b)").) It is not meant to limit the definition of "binder." Thus, the Court finds that the term

"binder" in choice a and choice b means a single polymer or a mixture of polymers.

i. "softening or melting temperature"

Limitation 1(a) of claim 1 refers to "a softening or melting temperature less than 190°C." (Id. at col. 43, lines 26-27.) Specifically, limitation 1 states that the thermally removable layer comprising the photosensitive element may be "an actinic radiation opaque layer comprising (i) at least one infrared absorbing material, (ii) a radiation opaque material . . . , and at least one binder having a softening or melting temperature less than 190°C." (Id. at col. 43, lines 23-27.) According to DuPont, the "softening or melting temperature" is "the temperature at which the viscosity of the binder found in the thermally removable layer is reduced sufficiently so that the layer can be removed during the thermal development process." (DuPont Markman Br. at 14; see DuPont Responsive Cl. Construction Br. at 34.) In contrast, MacDermid asserts that DuPont's proposed construction treats the terms "softening" and "melting" as synonymous, and thus, improperly prescribes a single meaning to two distinct claim terms. (MacDermid Br. in Opp'n to DuPont Markman Br. at 7.) MacDermid further asserts that the phrase "softening or melting temperature" is indefinite because the '859 patent does not specify the method of measuring the softening temperature. (Id. at 8-10 (arguing that "[s]oftening temperature

is the temperature at which material transforms a specific amount when measured under specific examination conditions"); see MacDermid Markman Br. at 40 ("'[S]oftening' is ambiguous unless a specific test/measurement method is specified, of which there are several. Notably the '859 specification does not provide how the softening temperature is to be measured.").

The specification contains the following statements, which reference the "softening" or "melting" of the thermally removable layer:

Thermally treating the element includes heating the exposed photopolymerizable layer and the thermally removable layer at a temperature sufficient to cause the unexposed (uncured) portions of the element to soften or melt or flow, and contacting the layer to an absorbent surface to absorb the melt or flow portions. The polymerized areas of the photopolymerizable layer have a higher melting temperature than the unpolymerized areas and therefore do not melt, soften, or flow at the development temperatures. The term "melt" is used to describe the behavior of the unirradiated portions of the photopolymerizable elastomeric layer subjected to an elevated temperature that softens and reduces the viscosity to permit flow and absorption by the absorbent material. (Taylor Decl., Ex. 1, '859 patent, at col. 20, lines 47-60.)

[S]o the process functions to absorb the heated composition layer at any temperature above some threshold for absorption in the absorbent material. A wide temperature range may be utilized to "melt" the composition layer for the purposes of this invention. (Id. at col. 20, lines 63-67.)

The photopolymerizable layer and the thermally removable layer/s are heated by conduction, convection, radiation, or other heating methods to a temperature sufficient to effect melting of the uncured portions but not so high as to effect distortion of the cured portions of the layer. The photosensitive element is

heated to a surface temperature above about 40°C.; preferably from about 40°C. to about 230°C. (104-446°F.), more preferably from about 100 to 200°C., and most preferably from 100 to 160°C. in order to effect melting or flowing of the uncured portions of the photopolymerizable layer and the thermally removable layer. The absorbent material contacts the surface of the heated photosensitive element, and absorbs the softened or molten or flowing portions of the elastomeric layer from the unirradiated portions, forming a flexographic printing plate in which the uncured portions are removed to form a relief pattern or surface. The thermally removable layer disposed above the photopolymerizable layer may soften or melt or flow and be absorbed as well by the absorbent material. (Id. at col. 21, lines 8-27.)

Thus, there are multiple references in the specification establishing that the "softening or melting temperature" refers only to the temperature necessary to sufficiently reduce the viscosity of the binder contained in the thermally removable layer so that such layer may be absorbed by the absorbent material.

Construing the term "softening or melting temperature" does not require that the '859 patent either specifically state the amount that the viscosity of such binder must transform when heat is applied, or expressly differentiate between the terms "melting" and "softening." Instead, the Court is satisfied that the intrinsic evidence, including the specification and the context in which the term is used in limitation 1(a) of claim 1, provides a sufficient basis for construing "softening or melting temperature." See Phillips, 415 F.3d at 1314-15. Therefore, the Court construes "softening or melting temperature" as referring

to any temperature at which the viscosity of the binder contained in the photopolymerizable layer will be reduced to such a point that the thermally removable layer, or portions thereof, may be removed by absorbing material.⁸

j. "imagewise exposing"

The second step in the process for making a flexographic printing plate described in claim 1 is "imagewise exposing the photopolymerizable layer to actinic radiation forming polymerized portions and unpolymerized portions." (Taylor Decl., Ex. 1, '859 patent, at col. 43, lines 34-36.) According to MacDermid, "imagewise exposing" should be construed as meaning "[c]reating an image on the photopolymerizable layer through any method including conventional (analog) and digital methods." (MacDermid Markman Br. at 29.) MacDermid argues that its proposed construction is (1) mandated by claims 2 and 43 of the '859 patent, which contemplate the use of a "release layer" and a "phototool" for imaging, and (2) supported by the specification, which notes that the image necessary for imagewise exposure can be generated by conventional and digital methods. (Id.) In contrast, DuPont argues that "imagewise exposing" means "[s]ubjecting the photopolymerizable layer to actinic radiation

⁸ It appears that "softening or melting temperature" also refers to any temperature at which the unpolymerized portions of the photopolymerizable layer will be removable.

to form polymerized and unpolymerized portions." (DuPont Responsive Cl. Construction Br. at 27.)

The specification refers to "imagewise exposing" in, inter alia, the following statements:

In preparation for the next step of the process which is to overall expose the photosensitive element to actinic radiation through a mask, a mask image may need to be formed on or disposed above the surface of the photopolymerizable layer opposite the support. . . . The image necessary for the imagewise exposure of the photopolymerizable layer can be generated by any method including conventional and digital methods, including inkjet application. (Taylor Decl., Ex. 1, '859 patent, at col. 17, lines 6-10, 17-20.)

[T]he mask image may be created on a separate carrier and then transferred by application of heat and/or pressure to the surface of the photopolymerizable layer opposite the support. . . . The separate carrier can then be removed from the element prior to imagewise exposure. (Id. at col. 18, lines 25-31.)

[A] conventional method for imagewise exposure is by using an image-bearing transparency film or phototool . . . as the mask. (Id. at col. 18, lines 56-58.)

Imagewise exposure of the photosensitive element to actinic radiation may be conducted in the presence or absence of atmospheric oxygen for photosensitive elements having an in situ mask. (Id. at col. 19, lines 42-45.)

The imagewise exposed photosensitive element is then ready for the next step of the present process which is thermally treating the exposed element to develop the relief image or pattern. (Id. at col. 20, lines 44-47.)

These statements indicate that the desired image is in place on the in-situ mask before the "imagewise exposure" occurs. (See id. at col. 17, lines 17-20 (implying that the image is generated

by any available method before the "imagewise exposure" occurs); col. 18, lines 25-31 (noting that the image may be created on a separate carrier that is removed before "imagewise exposure"); col. 18, lines 56-58 (referring to image-bearing in-situ mask being in place before "imagewise exposure"); col. 19, lines 42-45 (same).) Therefore, the Court disagrees with MacDermid that "imagewise exposing" encompasses creating an image on the photopolymerizable layer, and instead concludes that an image is generated on the in-situ mask before the photopolymerizable layer is "imagewise exposed."

The Court also concludes that the term "imagewise exposing" is unambiguously defined in the '859 patent's specification. The specification states that once the in-situ mask is on or disposed above the photopolymerizable layer, the next step in the claimed process is to "overall expose the photosensitive element to actinic radiation through [the] mask, that is, imagewise exposure of the element." (Id. at col. 18, lines 50-53.) Thus, after reviewing the specification and the plain language of limitation 2 to claim 1, the Court finds that "imagewise exposing" means to overall expose the photosensitive element to actinic radiation through an in-situ mask. Accordingly, the Court agrees, in part, with DuPont's proposed construction of this term. The Court, however, does not agree with DuPont's suggestion that the definition of "imagewise exposing" incorporates the next words in

the claim, "forming polymerized portions and unpolymerized portions." (Id. at col. 43, lines 35-36; see DuPont Responsive Cl. Construction Br. at 27.) This quoted language describes the result of overall exposing the photosensitive element to actinic radiation through an in-situ mask, and thus, should not be included in this Court's construction of the action term "imagewise exposing."

k. "polymerized"

"Imagewise exposing" the photopolymerizable layer to actinic radiation creates "polymerized" and "unpolymerized" portions of the photopolymerizable layer. (Taylor Decl., Ex. 1, '859 patent, at col. 43, lines 34-36.) MacDermid contends that "polymerized" means "[t]hose areas of the photopolymerizable layer exposed to actinic radiation resulting in cross-linked polymer chains." (MacDermid Markman Br. at 41.) DuPont contends that "[t]his phrase is so readily recognized by those of ordinary skill in the art that [it] did not provide a proposed construction in its opening brief." (DuPont Responsive Cl. Construction Br. at 35.) DuPont argues that MacDermid's proposed construction improperly imports functional limitations into the claim language. (Id. at 36.) Thus, in response to MacDermid's Opening Markman Brief, DuPont states that the '859 patent's specification supports construing "polymerized" as meaning "[s]ubjected to polymerization to form a polymer." (Id. at 35-36.)

In limitation 2 of claim 1, "polymerized" is used as an adjective modifying the term "portions," which refers to portions of the photopolymerizable layer. (Taylor Decl., Ex. 1, '859 patent, at col. 43, line 35.) The specification describes what occurs when portions of the photopolymerizable layer "polymerize" in the following statements:

The "clear" areas of the mask expose the photopolymerizable layer to actinic radiation and polymerize or crosslink. (Id. at col. 17, lines 15-17.)

[U]pon imagewise exposure to actinic radiation, the elastomeric capping layer has portions in which polymerization or crosslinking have occurred and portions which remain unpolymerized, i.e., uncrosslinked. (Id. at col. 9, lines 43-46.)

[T]he photosensitive element of the present invention is exposed to actinic radiation from suitable sources. . . . Exposure is of sufficient duration to crosslink the exposed areas down to the support. (Id. at col. 19, lines 4-5, 12-13.)

The treating step removes at least the photopolymerizable layer in the areas which were not exposed to actinic radiation, i.e., the non-polymerized areas or uncured areas of the photopolymerizable layer. (Id. at col. 20, lines 29-32.)

Thus, the specification suggests that "to polymerize" is to crosslink or cure. See Phillips, 415 F.3d at 1315 (noting that specification is highly relevant to claim construction and usually dispositive). Further, Webster's Ninth New Collegiate Dictionary defines "polymerize" as (1) "to subject to polymerization," or (2) "to undergo polymerization." Webster's Ninth New Collegiate Dictionary 913 (1991); see Phillips, 415

F.3d at 1314 (noting that general purpose dictionaries may assist courts in determining widely accepted meanings of commonly used words). Therefore, after viewing the intrinsic evidence found in the patent and the extrinsic dictionary definition, the Court concludes that the "polymerized" portions of the photopolymerizable layer referenced in limitation 2 of claim 1 should be construed to mean those portions that were subjected to or underwent crosslinking or curing. Accordingly, the Court does not adopt DuPont's proposed construction, which is too general, or MacDermid's proposed construction, which imports improper limitations on the term "polymerized."

1. "thermally treating"

Limitation 3 of claim 1 states that step three of the claimed process for making a flexographic printing plate comprises "thermally treating" the element described in step two "by heating to a temperature sufficient to remove the thermally removable layer and to remove the unpolymerized portions of the photopolymerizable layer and form a relief." (Taylor Decl., Ex. 1, '859 patent, at col. 43, lines 37-40.) DuPont argues that "thermally treating" should be construed in accordance with the plain language of claim 1 and the specification as meaning "heating to a temperature sufficient to substantially remove the remaining portions of the thermally removable layer and unpolymerized photopolymerizable layer to form a printing

relief.” (DuPont Markman Br. at 16-17; DuPont Responsive Cl. Construction Br. at 36.) MacDermid, in contrast, argues that “thermally treating” is an absolute limitation that should be construed as meaning “[t]o subject to heat sufficient to thoroughly remove: (1) the remaining portions of the thermally removable layer, and (2) the unpolymerized portions of the photopolymerizable layer.” (MacDermid Br. in Opp’n to DuPont Markman Br. at 10; see MacDermid Markman Br. at 42 (stating that “thermally treat” consists of two common words, and thus, in accordance with their ordinary meanings it should be construed as “[t]o subject to heat”).)

The Court notes that the plain language of limitation 3 to claim 1 expressly states that the element of step two is thermally treated by heating it to a temperature sufficient to remove both the thermally removable layer and the unpolymerized portions of the photopolymerizable layer. (Taylor Decl., Ex. 1, ‘859 patent, at col. 43, lines 37-40.) Also, the specification refers to “thermally treating” in the following statements:

The process includes imagewise exposing the photopolymerizable layer to actinic radiation forming polymerized portions and unpolymerized portions and thermally treating the imagewise exposed element by heating to a temperature sufficient to remove the thermally removable layer and to remove the unpolymerized portions of the photopolymerizable layer and form a relief. (Id. at col. 5, lines 12-18.)

Thermally treating the element includes heating the exposed photopolymerizable layer and the thermally removable layer at a temperature sufficient to cause

the unexposed (uncured) portions of the element to soften or melt or flow, and contacting the layer to an absorbent surface to absorb the melt or flow portions. (Id. at col. 20, lines 47-52.)

The thermal treating steps of heating the photopolymerizable layer and the thermally removable layer and contacting the layer/s with an absorbent material can be done at the same time, or in sequence provided that the uncured portions of the photopolymerizable layer are still soft or in a melt state when contacted with the absorbent material. (Id. at col. 21, lines 3-8.)

The plain language of limitation 3 states that "thermally treating" is done by heating to a temperature sufficient to remove both the thermally removable layer and the unpolymerized portions of the photopolymerizable layer. (Id. at col. 43, lines 37-40.) However, the Court agrees with MacDermid that neither the specification nor the plain language of claim 1 suggest that "thermally treating" requires heating to a temperature sufficient to "substantially" remove these layers. Instead, the term "remove" in both limitation 3 of claim 1 and in the relevant portions of the specification discussed above is not modified by an adverb. Thus, the Court will not construe "thermally treating" as involving heating to a temperature sufficient to "substantially" or "thoroughly" remove the discussed layers, as DuPont and MacDermid respectively suggest. Webster's Ninth New Collegiate Dictionary defines "remove" as, inter alia, (1) "to move by . . . taking away or off, and (2) to get rid of." Webster's Ninth New Collegiate Dictionary 997 (1991); see

Phillips, 415 F.3d at 1314 (noting that general purpose dictionaries may assist courts in determining widely accepted meanings of commonly used words). Thus, the Court construes the term "thermally treating" as simply meaning heating to a temperature sufficient to take away or get rid of both the thermally removable layer and the unpolymerized portions of the photopolymerizable layer and form a relief.

2. Infringement of Claim 1

DuPont asserts, in support of its motion for preliminary injunction, that "MacDermid's promotion and marketing of its LAVA thermal processing system, combined with DuPont's testing of MacDermid's MLT and Magma flexographic printing plates, demonstrates that when these plates are thermally processed or developed, at least Claim 1 of the '859 patent is infringed." (DuPont Br. at 19.) In opposing DuPont's motion, MacDermid does not dispute DuPont's assertion that thermally developing MacDermid's MLT and Magma flexographic printing plates using MacDermid's LAVA processing equipment infringes claim 1 of the '859 patent. (See MacDermid Br.; dkt. entry no. 57, DuPont Reply Br. at 1.) Instead, MacDermid challenges the validity and enforceability of the '859 patent. (See MacDermid Br; MacDermid Br. in Opp'n to DuPont Markman Br. at 3 (stating that a proper construction of the '859 patent's claims leads to a number of inexorable conclusions, including that the patent is invalid as

anticipated).) Thus, for purposes of deciding this preliminary injunction motion only, the Court will assume that MacDermid's products contain every limitation contained in claim 1 of the '859 patent, as construed supra. See Laitram Corp., 939 F.2d at 1535.⁹ Accordingly, the Court finds that DuPont has shown a reasonable likelihood of success on the infringement analysis.

3. The Validity of the '859 Patent

a. Section 102(b)

(i) Legal Standards Governing Public Use and Anticipation

Section 102(b) provides that a person is not entitled to a patent if "the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of the application for patent in the United States." 35 U.S.C. § 102(b); see Helifix Ltd. v. Blok-Lok, Ltd., 208 F.3d 1339, 1346 (Fed. Cir. 2000). Under this provision, the Court can invalidate a patent as "anticipated" or by reason of the "on-sale bar" or the "public use bar." Helifix Ltd., 208 F.3d at 1346, 1349.

The public use bar of Section 102(b) requires the Court to determine whether the purported use was (1) accessible to the

⁹ On appeal, the Federal Circuit found that this Court did not err in its determination that MacDermid did not dispute infringement in its opposition to the motion for preliminary injunction. See E.I. du Pont de Nemours & Co., 525 F.3d at 1357 n.2.

public, and (2) commercially exploited. Invitrogen Corp. v. Biocrest Mfg., L.P., 424 F.3d 1374, 1380 (Fed. Cir. 2005). The public use bar “arises where, before the critical date, the invention is in public use and ready for patenting.” Id. at 1379. “[T]he test for the public use prong includes the consideration of evidence relevant to experimentation, as well as, inter alia, the nature of the activity that occurred in public; public access to the use; confidentiality obligations imposed on members of the public who observed the use; and commercial exploitation.” Id. at 1380.

Anticipation requires that a single prior art reference discloses “each and every feature of the claimed invention, either explicitly or inherently.” Eli Lilly & Co. v. Zenith Goldline Pharms., Inc., 471 F.3d 1369, 1375 (Fed. Cir. 2006), cert. denied, 128 S.Ct. 146 (2007); see also Telemac Cellular Corp. v. Topp Telecom, Inc., 247 F.3d 1316, 1327 (Fed. Cir. 2001). “Under the principles of inherency, if the prior art necessarily functions in accordance with, or includes, the claimed limitations, it anticipates.” MEHL/Biophile Int’l Corp. v. Milgraum, 192 F.3d 1362, 1365 (Fed. Cir. 1999). Probabilities and possibilities cannot establish inherency. Id. The anticipatory reference must also sufficiently describe the claimed invention such that a person of ordinary skill in the field would possess it. Helifix Ltd., 208 F.3d at 1346. This

means that a person of ordinary skill in the field could combine the description of the invention in the anticipatory reference with that person's own knowledge to make the claimed invention. Elan Pharms., Inc. v. Mayo Found. for Med. Educ. & Research, 346 F.3d 1051, 1055 (Fed. Cir. 2003).

**(ii) Public Use and Anticipation Standards
Applied Here**

The Court concludes that the '859 patent is not barred by either public use or anticipation. MacDermid argues that since claim 1 of the '859 patent includes both digital and analog imaging, claim 1 is barred by Section 102(b) because DuPont's analog version of Cyrel® FAST was in public use prior to the '859 patent's critical date of March 6, 2000. (Dkt. entry no. 163, MacDermid Supplemental Br. at 10-13.) MacDermid also argues that United States Patent No. 5,925,500 ("Yang '500 patent") and DuPont's written disclosures anticipate the '859 patent because they contain every limitation in claim 1 of the '859 patent. (Id. at 15-17, 18-20.) DuPont responds by asserting that the analog Cyrel® FAST technology, which was in public use prior to March 6, 2000, does not employ a thermally removable layer, and therefore differs from the invention claimed in the '859 patent. (DuPont Supplemental Br. at 23.) Further, DuPont argues that even if claim 1 of the '859 patent covers analog imaging, it covers only a very specific analog process and not analog processes in general. (See 10-3-08 Hr'g Tr. at 55-56.) DuPont

also contends that the Yang '500 patent does not anticipate the '859 patent because it fails to teach every element of claim 1, namely thermal development of digital plates. (Id. at 23-26.)

The Court concludes that DuPont's public use of the analog Cyrel® FAST technology prior to March 6, 2000 does not bar the '859 patent under Section 102(b). Claim 1 of the '859 patent applies to analog imaging only under limited circumstances. (See Taylor Decl., Ex. 1, '859 patent, at col. 43, lines 28-33.) Specifically, claim 1 applies to analog imaging only where the plate has a release layer comprising "at least one binder and filler, wherein the binder is less than 49% by weight based on the total weight of the binder and filler" or "particulate material having particle size of less than 23 micrometers." (Id.) MacDermid has not demonstrated that the analog Cyrel® FAST technology in the public use prior to March 6, 2000 utilized a release layer satisfying the above limitations. Thus, MacDermid has not shown that the invention disclosed in the '859 patent was accessible to the public or commercially exploited prior to March 6, 2000. See Invitrogen Corp., 424 F.3d at 1380. The '859 patent, therefore, is not invalid under Section 102(b) based on the public use bar.

The Court also determines that the Yang '500 patent does not anticipate the '859 patent. The Yang '500 patent discloses technology pertaining to digitally imaged flexographic printing

plates, but does not disclose the thermal development of those plates. (See 2d Taylor Decl., Ex. 2, Yang '500 patent, at col. 4, line 57 to col. 8, line 40 (describing process for creating a digitally imaged flexographic printing plate).) Rather, the Yang '500 patent describes solvent development of the digital plates. (See id. at col. 5, lines 4-6 (describing the invention and stating that the "uncured areas can then be washed away in the normal development process"); col. 6, lines 16-22 (discussing use of a slip film and noting it would be removed during the "development (wash) step"); col. 10, lines 23-27 (noting that plate was developed in Solvit®, a developing solvent); col. 12, lines 43-45 (same).) The Yang '500 patent does not disclose thermal development of the digital plates. Rather, it merely notes that "heat plus a blotter" is a known method of developing flexographic printing plates. (Id. at col. 2, lines 4-7.) The Yang '500 patent does not disclose that this method of development could be used on digitally imaged plates. Thus, the Yang '500 patent does not anticipate the '859 patent because it does not disclose "each and every feature" of the '859 patent, specifically, it does not disclose thermal development of the digital plates. See Eli Lilly & Co., 471 F.3d at 1375.

The Court concludes that DuPont's written disclosures do not anticipate claim 1 of the '859 patent. To anticipate, all the elements of the claimed invention must be present in a single

reference. Bristol-Myers Squibb Co. v. Ben Venue Labs., Inc., 246 F.3d 1368, 1379 (Fed. Cir. 2001) (“[A]nticipation requires a showing of each limitation of a claim in a single reference”); see also Eli Lilly & Co., 471 F.3d at 1375. MacDermid, however, fails to identify a single reference by DuPont that anticipates the ’859 patent. Instead, MacDermid refers collectively to “DuPont’s written disclosures.” (See MacDermid Supplemental Br. at 18-20.) Thus, because anticipation must be based on a single reference, there is no anticipation of the ’859 patent based on DuPont’s collective written disclosures. See Bristol-Myers Squibb Co., 246 F.3d at 1379.

b. Section 103

(i) Legal Standard Governing Obviousness

Section 103 states in relevant part:

A patent may not be obtained . . . if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.

35 U.S.C. § 103(a). Thus, a patent is invalid for obviousness if “the difference between the new thing and what was known before is not considered sufficiently great to warrant a patent.” Graham, 383 U.S. at 14 (quoting H.R. Rep. No. 1923, at 7 (2d Sess. 1952)).

The Court must employ an expansive and flexible approach to the question of obviousness. KSR Int’l Co. v. Teleflex Inc., 127

S.Ct. 1727, 1739 (2007). In determining whether a claimed invention was obvious, the Court must objectively consider (1) the scope and content of the prior art, (2) the differences, if any, between the prior art and the claims at issue, and (3) the level of ordinary skill in the pertinent art ("the primary Graham factors"). Graham, 383 U.S. at 17; Bausch & Lomb, 796 F.2d at 447. The Court should also consider secondary factors such as the patented invention's commercial success, whether the patent satisfied a long-felt but unmet need, and the failure of others. Graham, 383 U.S. at 17-18; Bausch & Lomb, 796 F.2d at 447. "It is black letter law that the ultimate question of obviousness is a question of law." Richardson-Vicks Inc. v. Upjohn Co., 122 F.3d 1476, 1479 (Fed. Cir. 1997).

The law presumes that all prior art references are directly in front of the hypothetical person of ordinary skill. See In re Winslow, 365 F.2d 1017, 1020 (C.C.P.A. 1966). Accordingly, the Court cannot inquire into what patentees or inventors likely would have done when faced with the prior art references, but instead must consider only what a person with conventional wisdom in the pertinent art would have done. See Standard Oil Co. v. Am. Cyanamid Co., 774 F.2d 448, 454 (Fed. Cir. 1985). Thus, the issue turns on whether the claimed subject matter, as a whole, would have been obvious to a person of ordinary skill at the time the invention was made. See KSR Int'l Co., 127 S.Ct. at 1742.

When a patent combines elements known in the prior art "with each performing the same function it had been known to perform and yields no more than one would expect from such an arrangement, the combination is obvious." Id. at 1740 (quotation and citation omitted); see id. ("[W]hen a patent claims a structure already known in the prior art that is altered by the mere substitution of one element for another known in the field, the combination must do more than yield a predictable result."). However, when the prior art teaches away from a particular combination of known elements, the successful combination of those elements is less likely to be obvious. Id. That a patent combines elements known in the prior art in accord with their established functions does not, alone, make the patent obvious. Id. at 1741. Rather, the Court should also "identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does." Id.

A patent may be proved obvious by showing that the combination of known elements was obvious to try. Id. at 1742. "When there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill has good reason to pursue the known options within his or her technical grasp." Id. Thus, a predictable success from one of these options likely results

from ordinary skill and common sense, rather than innovation.

Id. In such a situation, that the combination of known elements was obvious to try may sufficiently show that the combination was obvious under Section 103. Id.

(ii) Obviousness Standard Applied Here

The PTO issued DuPont's United States Patent No. 5,262,275 entitled "Flexographic Printing Element Having an IR Ablatable Layer and Process for Making a Flexographic Printing Plate" on November 16, 1993. (2d Taylor Decl., Ex. 3, Fan '275 patent, at 1 (listing the filing date as August 7, 1992).) The "Summary of the Invention" section of the Fan '275 patent states that the present invention describes:

- a photosensitive printing element used for preparing flexographic printing plates comprising
- (a) a support,
 - (b) a photopolymerizable layer comprising an elastomeric binder, at least one monomer and an initiator having sensitivity to non-infrared actinic radiation, said layer being soluble, swellable or dispersible in a developer solution prior to exposure to actinic radiation,
 - (c) at least one barrier layer which is soluble, swellable, dispersible or liftable in the developer solution for the photopolymerizable layer prior to exposure to actinic radiation, and
 - (d) at least one layer of infrared radiation sensitive material which is substantially opaque to actinic radiation wherein the infrared-sensitive material is ablatable from the surface of the barrier layer upon exposure to infrared laser radiation.

The invention further relates to a process for making a flexographic printing plate, which comprises:

(1) imagewise ablating layer (d) of the element described above with infrared laser radiation to form a mask;

(2) overall exposing the photosensitive element to actinic radiation through the mask; and

(3) treating the product of step (2) with at least one developer solution to remove (i) the infrared-sensitive material which was not removed during step (1), (ii) the areas of the barrier layer which were not exposed to actinic radiation, and (iii) the areas of the photopolymerizable layer (b) which were not exposed to actinic radiation.

(Id. at col. 2, lines 13-44.) Thus, the Fan '275 patent relates to flexographic printing plates comprised of a support, a photopolymerizable layer, and an ablation layer, as well as the process for making such plates. (See id.; id. at col. 2, lines 49-54 (explaining that the invention combines "the convenience and sensitivity of infrared laser imaging with conventional photopolymerizable compositions to produce flexographic printing plates with known good printing quality quickly, economically, and by digital imaging means").)

The specification of the Fan '275 patent generally describes the process of the invention as involving (1) the formation of a mask by imagewise ablating the infrared radiation sensitive material comprising layer (d), (2) "overall exposing the photosensitive element to actinic radiation through the mask," and (3) developing the product of step (2) using a developer solution. (Id. at col. 8, lines 60-68; see also id. at col. 9, line 4 to col. 10, line 58.) The specification instructs that the infrared sensitive layer, layer (d), "should be capable of

absorbing infrared radiation and should be opaque to actinic radiation.” (Id. at col. 5, lines 56-58.) Layer (d) also may include a binder, if desired. (Id. at col. 5, lines 59-60.) The specification further explains that during the imagewise ablating step, “material in the infrared-sensitive layer is removed, i.e., ablated, in the areas exposed to the infrared laser radiation.” (Id. at col. 9, lines 19-21.) The photosensitive element is then overall exposed to actinic radiation through the mask, resulting in both polymerized and unpolymerized portions. (Id. at col. 9, lines 32-43.)

The PTO issued United States Patent No. 5,175,072 entitled “Flexographic Printing Plate Process” on December 29, 1992. (2d Taylor Decl., Ex. 7, Martens ‘072 patent, at 1 (listing the filing date as July 26, 1990).) The “Description of the Invention” section of the Martens ‘072 patent states that the

process of the present invention for producing a flexographic printing plate comprises providing a relief imageable element comprising a flexible substrate which can transmit ionizing radiation, said substrate having on one surface thereof a radiation hardenable composition in a thickness of at least 0.3 mm, imagewise irradiating said composition to harden the composition in irradiated areas, contacting said imagewise irradiated layer with an absorbent layer which can absorb unirradiated composition when it has been heated between 40°C. and 200°C., heating said composition layer to a temperature between 40°C. and 200°C. while it is in contact with said absorbent layer, said temperature being sufficiently high so as to enable said composition in unirradiated areas to be absorbed by said absorbent layer (usually by flowing into said absorbent layer), allowing at least 75% by weight of said composition (which is unirradiated) in

unirradiated areas to be absorbed by said absorbent layer, and removing said absorbent layer and said at least 75% by weight of composition from said flexible substrate, the process further comprising the step of irradiating said composition layer through the substrate with ionizing radiation to harden some but less than all of said composition layer and thereby form a hardened zone between said flexible substrate and unhardened composition before said at least [7]5% of said composition is allowed to be absorbed by said absorbent layer.

(Id. at col. 5, lines 7-34.) Thus, the Martens '072 patent describes a process for developing flexographic printing plates using heat, rather than solvents. (See id. col. 10, lines 29-38; col. 13, lines 62-67 (stating that the invention describes a process through which flexographic printing plates are developed without use of solvents).)

The specification of the Martens '072 patent explains that after imagewise exposure to actinic radiation, the uncured portions of the elastomer layer must be removed. (Id. at col. 12, lines 42-45.) The specification instructs that the uncured portions of the elastomer be removed by heating the uncured elastomer to a temperature sufficient to cause melting and pressing an absorbent sheet material against the uncured elastomer. (Id. at col. 12, lines 45-58.) The contact between the molten uncured elastomer and the absorbent sheet material results in "a transfer of the uncured elastomer from the planar contiguous layer to the absorbant [sic] sheet material." (Id. at col. 12, lines 56-64.) The absorbent sheet material is then

removed, leaving the relief structure. (Id. at col. 12, lines 61-64.)

The Court, after reviewing the Fan '275 patent and the Martens '072 patent, concludes that MacDermid has raised substantial questions regarding whether the '859 patent was obvious in light of these prior art references.¹⁰ The Fan '275 patent and the Martens '072 patent were known to persons skilled in the art in 1999, the year in which the claimed invention was made. (See Mahanna Decl., Ex. 2, at G-1 to G-5, 3-29-04 Resp. & Lungu Decl. (stating that the claimed invention was conceived and reduced to practice in 1999).) See KSR Int'l Co., 127 S.Ct. at 1744 (noting that the District Court was correct to perform the obviousness analysis as of the time the patentee designed the subject matter in the claim). The '859 patent describes the same technology and processes pertaining to digital imaging of flexographic printing plates as disclosed in the Fan '275 patent, including (1) a photosensitive element comprising a support, a photopolymerizable layer, and a third layer consisting of an infrared absorbing material, a radiation opaque material, and a binder, (2) ablation of an imagewise ablatable layer using infrared laser radiation to form a mask, (3) overall exposure of

¹⁰ The Court will examine only limitation 1(a) of claim 1 in making the obviousness determination because this is the only part of claim 1 DuPont is asserting against MacDermid. (See 10-3-08 Hr'g Tr. at 5-6, 51, 55.)

the photopolymerizable layer to actinic radiation through the mask, resulting in polymerized and unpolymerized portions of the photopolymerizable layer, and (4) development by removing the unpolymerized portions of the photopolymerizable layer. (Compare Taylor Decl., Ex. 1, '859 patent, at col. 5, lines 57-61; col. 11, lines 13-41; col. 17, lines 21-60; col. 20, lines 22-47; col. 43, lines 14-36, with 2d Taylor Decl., Ex. 3, Fan '275 patent, at col. 2, lines 13-44, 55-58; col. 5, lines 56-62; col. 9, lines 4-53; col. 10, lines 21-24.) Furthermore, the '859 patent discloses the same process of thermal development of flexographic printing plates as was disclosed in the Martens '072 patent. Specifically, both patents disclose the use of heat to form the relief by removing the unpolymerized portions of the photopolymerizable layer after imagewise exposure to actinic radiation. (Compare Taylor Decl., Ex. 1, '859 patent, at col. 20 lines 22-67; col. 21, lines 1-55; col. 43, lines 37-40, with 2d Taylor Decl., Ex. 7, Martens '072 patent, at col. 5, lines 7-34; col. 12, lines 42-67.)

MacDermid has raised substantial questions regarding whether it would have been obvious to one skilled in the art to essentially "unite old elements" by combining the digital imaging technology disclosed in the Fan '275 patent with the thermal development technology described in the Martens '072 patent. See KSR Int'l Co., 127 S.Ct. at 1739 ("[A] patent for a combination

which only unites old elements with no change in their respective functions . . . obviously withdraws what is already known into the field of its monopoly and diminishes the resources available to skillful men.” (omission in original) (quotation and citation omitted)). The digital imaging technology and the thermal development technology described in the ‘859 patent perform the same functions they had been known to perform and yield a predictable result. See id. at 1740 (emphasizing that a combination of known elements “with each performing the same function it had been known to perform and yield[ing] no more than one would expect from such an arrangement” is obvious (quotation and citation omitted)). The flexographic printing plate is digitally imaged using laser radiation on an imagewise ablatable layer, exposed to actinic radiation through the mask, and then developed using known thermal development processes. (See Taylor Decl., Ex. 1, ‘859 patent, at col. 17, line 21 to col. 18, line 2; col. 18, line 50-55; col. 20, line 29 to col. 21, line 48.)

MacDermid has also identified a reason that would motivate a person of ordinary skill in the field to combine the two known technologies, specifically a desire to receive the benefits of both digital imaging and thermal development in one sequential process. (MacDermid Supplemental Br. at 25; 10-3-08 Hr’g Tr. at 125-26.) Digital imaging has several benefits over analog imaging, including that phototools are expensive and time-

consuming to make. (See 10-3-08 Hr'g Tr. at 126.) Similarly, thermal development has multiple advantages over solvent development, including that it is quicker and does not create environmental issues regarding the use and disposal of solvents. (See id. at 9, 126.) Thus, a person of ordinary skill in the field would be motivated to combine digital imaging and thermal development in one sequential process to gain the benefits of both technologies. (See MacDermid Supplemental Br. at 25.) KSR Int'l Co., 127 S.Ct. at 1741 (emphasizing importance of identifying "a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does").

The Court also finds that DuPont has not shown that MacDermid's asserted defense that the '859 patent is invalid for obviousness under Section 103 lacks substantial merit. See Entegris, Inc., 490 F.3d at 1351 (stating that if the alleged infringer asserts an invalidity defense that the patent holder cannot prove "lacks substantial merit," the Court should not issue the preliminary injunction). DuPont argues that (1) the prior art teaches away from using heat to develop digitally imaged plates, (2) MacDermid's obviousness argument is impermissibly based on hindsight, and (3) the objective evidence shows that this combination of technologies was not obvious.

(DuPont Reply Br. at 10-11, 13; DuPont Supplemental Br. at 4-5, 10-11, 16-17.)

The Court does not agree that the prior art, specifically the Fan '275 and United States Patent No. 6,238,837 ("Fan '837 patent"), teaches away from thermally developing digitally imaged flexographic printing plates. DuPont points to a line, present in both patents, that states "[h]igh temperatures are not recommended because the support can shrink and this can cause registration problems" to support its position that the patents teach away from thermal development of digitally imaged plates. (See DuPont Reply Br. at 13; see also 2d Taylor Decl., Ex. 3, Fan '275 patent, at col. 10, lines 63-65; id., Ex. 4, Fan '837 patent, at col. 15, lines 5-7.) DuPont, however, takes this sentence out of context. The specification of the Fan '275 patent says

Following solvent development, the relief printing plates are generally blotted or wiped dry, and then dried in a forced air or infrared oven. Drying times and temperatures may vary, however, typically the plate is dried for 60 to 120 minutes at 60°C. High temperatures are not recommended because the support can shrink and this can cause registration problems.

(2d Taylor Decl., Ex. 3, Fan '275 patent, at col. 10, lines 59-65; see id., Ex. 4, Fan '837 patent, at col. 15, lines 1-7 (same).) Thus, the Fan '275 patent and the Fan '837 patent do not teach away from thermal development of digitally imaged plates. Rather, the patents teach away from using high

temperatures to dry the plates post-development because the support layer could shrink. (See id., Ex. 3, Fan '275 patent, at col. 10, lines 59-65; id., Ex. 4, Fan '837 patent, at col. 15, lines 1-7.)

The Court also does not believe that MacDermid's obviousness argument is impermissibly based on hindsight. DuPont contends that because MacDermid failed to articulate a motivation for combining digital imaging and thermal development, the argument must be based on hindsight. (DuPont Reply Br. at 11-12; DuPont Supplemental Br. at 11.) However, as discussed above, MacDermid has identified a reason for the combination, namely a desire for the benefits of both digital imaging and thermal development in one sequential process. (See MacDermid Supplemental Br. at 25.) Furthermore, at the time of the invention described in the '859 patent, it was known in the prior art that there are multiple ways in which to develop flexographic printing plates. (See e.g., 2d Taylor Decl., Ex. 2, Yang '500 patent, at col. 2, lines 4-7 ("Typical methods of development include washing with various solvents or water, often with a brush. Other possibilities for development include use of an air knife or heat plus a blotter.").) The prior art did not limit development methods to a particular type of plate. (See id.) Thus, it appears that a person of ordinary skill in the field would be motivated to combine known digital imaging technology with known thermal

development technology to obtain the benefits of both technologies in one process.

The Court also does not agree with DuPont that the objective factors, including commercial success and industry praise, overcome the Court's conclusion that there are substantial questions regarding whether the '859 patent was an obvious combination of elements in the prior art. The Court has objectively considered the scope and content of the prior art, as well as the differences between the prior art and the '859 patent, before reaching its determination that MacDermid has raised substantial questions pertaining to the obviousness of the '859 patent under Section 103. See Graham, 383 U.S. at 17; Bausch & Lomb, 796 F.2d at 447. The Court has also considered the applicable secondary factors, but applying a flexible approach to the question of obviousness, the Court finds that the secondary factors do not alter its conclusion. See KSR Int'l Co., 127 S.Ct. at 1745 (finding that no secondary factors "dislodge[d]" the court's determination that claim 4 of the patent at issue was obvious); Leapfrog Enters., Inc. v. Fisher-Price, Inc., 485 F.3d 1157, 1162 (Fed. Cir. 2007) (stating that the court had no basis to disagree with the district court's statement that although there was substantial evidence of commercial success, praise, and long-felt need, "given the strength of the prima facie obviousness showing, the evidence on

secondary considerations was inadequate to overcome a final conclusion that claim 25 would have been obvious").

The Court concludes that DuPont has not overcome the substantial questions related to MacDermid's obviousness defense based on the present record. Thus, DuPont has not shown that it has a substantial likelihood of success on the merits. Accordingly, granting a preliminary injunction would not be appropriate here. See Genentech, Inc., 108 F.3d at 1364. The Court notes, however, that the holding should not imply that the record supports a determination that the '859 patent is invalid, or that summary judgment of patent validity is not possible on a more fully developed record. See Abbott Labs., 452 F.3d at 1335 (noting that "[v]ulnerability is the issue at the preliminary injunction stage, while validity is the issue at trial").

4. The Enforceability of the '859 Patent

a. Legal Standards Governing Inequitable Conduct

A patent obtained through inequitable conduct is unenforceable. Monsanto Co. v. Bayer Biosci. N.V., 514 F.3d 1229, 1243 (Fed. Cir. 2008). A patentee engages in inequitable conduct by breaching the duty of candor, good faith, and honesty owed to the PTO. Eli Lilly & Co., 471 F.3d at 1381; see also Molins PLC v. Textron, Inc., 48 F.3d 1172, 1178 (Fed. Cir. 1995) (noting that patent applicants are "required to prosecute patent applications in the PTO with candor, good faith, and honesty").

"Inequitable conduct includes affirmative misrepresentations of material facts, non-disclosure of material information, or submission of false material information, coupled with an intent to deceive." Eli Lilly & Co., 471 F.3d at 1381. To rise to the level of inequitable conduct, the withheld reference must be material, and the patentee must intend to mislead the PTO. Id. Where the alleged inequitable conduct consists of "an omission of a material reference to the PTO, the record must contain clear and convincing evidence that the applicant made a deliberate decision to withhold a known material reference" and withheld the reference with an intent to deceive. Id. at 1382. "Intent to deceive cannot be inferred simply from the decision to withhold the reference where the reasons given for the withholding are plausible." Dayco Prods., Inc. v. Total Containment, Inc., 329 F.3d 1358, 1367 (Fed. Cir. 2003); see also Eli Lilly & Co., 471 F.3d at 1382.

b. Inequitable Conduct Standards Applied Here

MacDermid argues that DuPont breached its duty of candor to the PTO by failing to disclose certain documents, including prior patents, and an on-sale bar, and by concealing the best mode. (MacDermid Br. at 37.) MacDermid asserts that DuPont's intent to deceive should be inferred based upon its failure to disclose. (Id. at 39.) In response, DuPont argues that the information not disclosed was not material to the patentability of the '859

patent. (DuPont Reply Br. at 16.) At most, DuPont contends, the information would have been cumulative of information considered by the PTO. (Id.) DuPont also argues that MacDermid has failed to offer evidence of an intent to deceive. (Id. at 17.)

The Court concludes that MacDermid has failed to raise a substantial question of enforceability based upon inequitable conduct. MacDermid has not shown that DuPont acted with an intent to deceive or mislead the PTO as is required for a finding of inequitable conduct. See Eli Lilly & Co., 471 F.3d at 1381. Here, DuPont withheld certain references based upon a belief that the references were cumulative and not material to the patentability of the '859 patent. (Dkt. entry no. 57, 2d Magee Decl. at 12-13.) Upjohn Co. v. MOVA Pharm. Corp., 225 F.3d 1306, 1312 (Fed. Cir. 2000) ("[A] reference need not be provided to the examiner if it is merely cumulative to or less material than other references before the examiner.").¹¹ That DuPont believed the references were not material or cumulative of references already before the PTO is a plausible reason for withholding the references. (See 2d Magee Decl. at 12-13.) See Upjohn Co., 225 F.3d at 1312. MacDermid has not provided any evidence of DuPont's intent to deceive other than by inference from DuPont's decision to withhold certain references. (See MacDermid Br. at

¹¹ DuPont disclosed both the Fan '275 patent and the Martens '072 patent to the PTO. (See Mahanna Decl., Ex. 2, at B-1 to B-2, 2-27-02 Information Disclosure Stmt.)

39; dkt. entry no. 63, MacDermid Sur-Reply at 4.) The intent to deceive, however, "cannot be inferred simply from the decision to withhold the reference where the reasons given for the withholding are plausible." Dayco Prods., Inc., 329 F.3d at 1367; see also Upjohn Co., 225 F.3d at 1312 ("Intent to deceive can not be inferred solely from the fact that information was not disclosed; there must be a factual basis for a finding of deceptive intent." (quotation and citation omitted)). Thus, MacDermid has failed to raise a substantial question as to the '859 patent's enforceability based on inequitable conduct.

B. Irreparable Harm

DuPont argues that because of its showing that the '859 patent is valid and is infringed, DuPont is entitled to a presumption of irreparable harm. (DuPont Br. at 29.) DuPont also asserts that it has sustained damage to its sales, prices, and reputation that cannot be redressed by monetary damages. (Id. at 31-37.) MacDermid argues that DuPont is not entitled to a presumption of irreparable harm because it has not made a clear showing that the '859 patent is valid and enforceable. (MacDermid Br. at 42.) Also, MacDermid contends that DuPont delayed too long before seeking a preliminary injunction, and that DuPont has not shown that money damages are inadequate. (Id. at 43-47, 48-50.)

The Court concludes that DuPont has not shown that it will suffer irreparable harm without a preliminary injunction. The Court has determined that MacDermid raised a substantial question as to the '859 patent's validity. DuPont has not made a clear showing of the '859 patent's validity, and is therefore not entitled to a presumption of irreparable harm. See Nutrition 21 v. United States, 930 F.2d 867, 871 (Fed. Cir. 1991) (emphasizing that a presumption of irreparable harm does not arise absent a clear showing of validity and infringement). Further, any potential harm DuPont may sustain is lessened because of the substantial question raised as to the '859 patent's validity. Thus, the irreparable harm factor does not favor a preliminary injunction.

C. Balance of Hardships

DuPont argues that without an injunction, it will sustain enormous financial losses, as well as loss of customers and harm to its reputation and goodwill. (DuPont Br. at 37-38.) This harm, DuPont argues, is greater than any loss in sales MacDermid will sustain as a result of a preliminary injunction. (Id. at 38.) MacDermid asserts that a preliminary injunction may permanently keep its product out of the market and irreparably damage its reputation and goodwill. (MacDermid Br. at 51-53.)

The Court concludes that the balance of hardships does not favor a preliminary injunction. Here, the hardship to MacDermid

of having to cease manufacture and sale of its product is substantial. See Ill. Tool Works, Inc. v. Grip-Pak, Inc., 906 F.2d 679, 683 (Fed. Cir. 1990) (recognizing the devastating impact that can result when a manufacturer is required to withdraw its product from the market prior to trial). In contrast, DuPont will not sustain a substantial hardship without a preliminary injunction since it has not shown a strong likelihood of success on the validity of the '859 patent. Cf. id. (noting magnitude of patentee's hardship where patentee has shown "a strong likelihood of success on validity and infringement"). Thus, the balance of hardships favors MacDermid and weighs against a preliminary injunction.

D. Public Interest

DuPont argues that the public interest favors a preliminary injunction because of the strong public interest in protecting rights of patent holders. (DuPont Br. at 39.) In response, MacDermid asserts that the public has an interest in maintaining legitimate competition in the market. (MacDermid Br. at 54.) MacDermid also contends that the public does not have an interest in enforcing an invalid patent. (Id.)

The Court determines that the public interest weighs against a preliminary injunction. Here, there is a substantial question as to the '859 patent's validity. The public has less of an interest in the enforcement of a patent where there is a

substantial question as to the patent's validity. See Abbott Labs., 452 F.3d at 1348 (finding the public interest better served by denying preliminary injunction application where patentee did not establish a likelihood of success on the merits). Further, the public interest favors legitimate competition in the market. See Ill. Tool Works, Inc., 906 F.2d at 684 (recognizing the public interest in alleged patent infringer's continuing right to compete in the market where patentee was only remotely likely to successfully show infringement at trial); Pharmacia Corp. v. GlaxoSmithKline Consumer Healthcare, L.P., 292 F.Supp.2d 594, 609 (D.N.J. 2003) (emphasizing the strong public interest in free competition). Here, denial of the preliminary injunction application results in MacDermid's continued competition with DuPont in the market. The public interest in free competition outweighs the public interest in enforcing a patent where there is a substantial question as to the patent's validity. See Ill. Tool Works, Inc., 906 F.2d at 684. Thus, the public interest factor does not favor a preliminary injunction. Because all four preliminary injunction factors weigh against a preliminary injunction, the Court will not issue an preliminary injunction in this action.

CONCLUSION

The Court, for the reasons stated supra, will deny the motion. The Court will issue an appropriate order.

s/ Mary L. Cooper
MARY L. COOPER
United States District Judge

Dated: November 19, 2008